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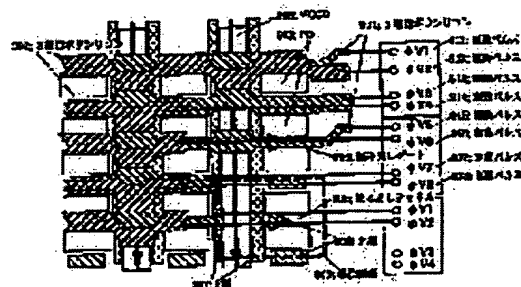
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## (54) SOLID-STATE IMAGE PICKUP DEVICE AND ITS DRIVE METHOD

(57)Abstract:

**PURPOSE:** To expand a light quantity handling range to a high-illuminance side by reading pieces of image information on two images, which are different in exposure time, out in order, line by line.

**CONSTITUTION:** This device has 1st-layer polysilicon 901, 2nd-layer polysilicon 902, a photoelectric conversion part PD 903, a readout gate 904, a read channel 905 which is formed in a semiconductor below the readout gate (N layers in this case), a P layer 906 which prevents signal charges from flow in a VCCD (vertical charge coupled device) of horizontally adjacent unit pixels improperly, a P layer 907 which prescribes the transfer channel area of the VCCD, and the VCCD 908 which transfers the signal charges as shown by an arrow. A unit pixel 900 is shown by a chain line, and the device having the two-dimensional array structure is driven with drive pulses of 8 phases in total, which are drive pulses  $\phi$ V1911,  $\phi$ V2912,  $\phi$ V3913,  $\phi$ V4914,  $\phi$ V5915,  $\phi$ V6916,  $\phi$ V7917, and  $\phi$ V8918.



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